

REMARKS

The claims currently pending in the application are claims 7-21, 23-24, 31 and 33-36. Claims 1-6, 22, 25-30 and 32 have been canceled. Claim 37 has been withdrawn.

Amendments have been made to claims 7, 10, 13, 15, 16, 18, 21, 23, 31 and 33. The amendments to claims 15, 16, 18 and 31 merely change the reference to the claims from which they respectively depend. The substance of the other amendments are discussed in more depth below.

Claim Rejections Under 35 USC §102

Claims 21, 22, 25-28, 30-34 and 36 (Tringali et al '837)

Claims 21, 22, 25-28, 30-34 and 36 have been rejected under 35 USC 102(b) as being anticipated by U.S. Patent No. 4,197,837 to Tringali et al.

Independent claim 21 has been amended to more clearly explain the invention claimed, in that the mattress itself is substantially and rapidly deflated, rather than just the internal passages within the mattress. The important distinction of this feature can be appreciated and better understood by referring to Applicant's original disclosure¹ in U.S. Patent No. 6,698,046 at column 4, lines 48-59. In Tringali et al, the apparatus is constructed such that only certain passages within the mattress, but not all, can be deflated at any particular time. While some internal passages are deflated, others are inflated.

¹ This application is a continuation of application serial no. 10/106,637, which matured into U.S. Patent No. 6,698,046. For ease in locating the passage in the disclosure with precision, reference is made to the patent document. Amendments were made to the specification during the prosecution of the present application, which may cause confusion in precisely locating this particular passage.

Furthermore, claim 21 requires that the method employs a valve having a single inflation port and a single deflation port. In contrast, the Tringali et al valve has multiple inflation ports and multiple deflation ports affecting internal chambers within the mattress. This multiple inflation/deflation port arrangement permits the simultaneous inflation/deflation feature of internal passages for creating a wave or ripple motion in the mattress touted in the Tringali et al disclosure. However, it precludes the substantial and rapid deflation of the entire mattress which is crucial if CPR (cardio-pulmonary resuscitation) is to be performed on a patient while lying in the bed. That is to say, that a hard-backed surface against which to brace the patient is necessary to perform CPR, and that an inflated, resilient element behind the patient would be counterproductive in performing CPR. Obviously, CPR could not be effectively performed where portions of the mattress remain inflated.

Independent claim 31 has also been amended to more clearly describe the valve for controlling the air flow for inflating and deflating the mattress. Specifically, Applicant's valve is operably limited to two positions, one position for diverting the flow of air into the mattress, the other position for diverting and evacuating air from the mattress. Claim 31 also includes the limitation that the air flow is controllable from within the air supply lines themselves. Tringali et al '837 does not teach or suggest any means by which the air flow is controllable from within the air supply lines themselves, as opposed to being controlled at the valve.

This emphasizes the difference between Applicant's inventive method as described in claim 21 and apparatus as described in claim 31 from the apparatus disclosed in Tringali et al. Accordingly, it is respectfully submitted that this rejection of claims 21 and 31 under §102 has been obviated and should be withdrawn. Likewise, dependent claims 33, 34 and 36 should be allowable as they add limitations in addition to those cited in independent claim 31.

Claims 21-28 and 31-34 (Johnson et al '595)

Claims 21-28 and 31-34 have been rejected under 35 USC 102(b) as being anticipated by U.S. Patent No. 5,373,595 to Johnson et al. The valve housing in Johnson et al '595 has a single inflation port and a single deflation port. It also comprises an inner rotatable valve element having an array of varying sized apertures which control the rate of air flow to the mattress, depending upon which size aperture is aligned with the air chambers of the mattress.

In contrast, Applicant's method as described in amended independent claim 21 provides that the valve operate from just two positions. This is a substantial structural difference that significantly affects the method of inflation. By providing a single position of the valve for inflation (and a single position of the valve for deflation) it relieves the valve from being the sole point for control of air flow. In Johnson et al '595, control of air flow is effected solely by the alignment of the varying size apertures with the air chambers of the mattress. This places a substantial duty on the part of the valve which must be able to rotate over a range of positions in a short time period. That would require a very careful calibration of the valve to ensure proper rotation for proper alignment.

As discussed above, independent claim 31 has been amended to more clearly describe a valve being operable from two positions. Further, claim 31 requires that the air flow to the mattress be controllable from within the air supply lines. In contrast, Johnson et al '595 teaches that the amount of air flow to the mattress is controlled by the valve itself, specifically by the alignment of the varying sized apertures with the air chambers of the mattress. The air supply lines in Johnson et al '595 are merely passive, and provide no control themselves.

Accordingly, it is respectfully submitted that the rejection of claims 21 and 31 as being anticipated by Johnson et al '595 has been obviated and should be withdrawn. Likewise,

dependent claims 33, 34 and 36 should be allowable as they add limitations in addition to those cited in independent claim 31.

Claim Rejections Under 35 USC §103

Claims 7-20, 29 and 35 have been rejected under 35 USC 103(a) as being unpatentable over Johnson et al '595 in view of U.S. patent No. 4,949,414 to Thomas et al. The Examiner cites Thomas et al '414 for the proposition that it discloses an air flow control system comprising an electrically controlled valve in at least one air supply line.

However, the structural arrangement of the Thomas et al '414 air flow control system as it relates to the air supply line is unlike that provided by Applicant. Attention is drawn to Figure 8 of the Thomas et al '414 patent wherein valve housing 162 contains the means for air flow control. The air supply line 98 itself contains no separate air flow control means. This is in sharp contrast to the arrangement claimed by Applicant.

Claim 7 expressly requires that "an amount of air flow...[is] controllable from within the air supply lines". It can clearly be seen in Applicant's Figure 2 that the air flow control 310 is placed directly within the air line 302. This control mechanism is separate and distinct from the gate member 200 which controls the direction of the air to and from the mattress, and the placement of the control mechanism separate and apart from the gate member is critical.

Furthermore, Johnson et al '595 would not reasonably suggest the use of additional air flow control valves, because its rotatable valve is described as serving that purpose. As can be seen in Figure 3 of Johnson et al '595, rotatable element 41 is provided with a series of apertures 43 of varying size. Rotation of element 41 brings these apertures into alignment with valve outlets 36. Depending on the degree of rotation of element 41, apertures of predefined dimension permit air flow into outlets 36. Therefore, Johnson et al '595 teaches away from the

use of an air flow control within the air supply lines. As such, claim 7 cites limitations that are nonobvious from either Johnson et al '595 alone, or in combination with Thomas et al '414. It is respectfully submitted that claim 7 is proper in form and scope and should be allowed.

Claims 8-20 add further limitations to claim 7, and should therefore be allowable for the same reasons discussed above. Claim 10 was amended to change "multiple-position" to "two-position" with respect to the rotary valve. Claim 13 was amended to give proper antecedent basis for certain limitations, and is self-explanatory. Claim 29 has been canceled.

Claim 35 is dependent from independent claim 31. Claim 31 has been amended, like claim 7, to expressly require that "an amount of air flow...[is] controllable from within the air supply lines". Accordingly, the arguments supporting patentability of claim 7 likewise apply to claims 31 and 35.

Applicant submits that claims 7-20 and 35 are proper in form and scope, and that the rejection thereof under §103 should be withdrawn.

Conclusion

Applicant has made a sincere and earnest effort to advance the prosecution of this case to allowance. Such action is now believed to be in order. If these are any matters which can be further clarified by telephone, the Examiner is requested to contact the undersigned attorney.

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Glenn K. Robbins II, Reg. No. 33,275
Spencer Fane Britt & Browne LLP
1000 Walnut Street, Suite 1400
Kansas City, Missouri 64106
Telephone: (816)292-8150
Facsimile: (816)474-3126
e-mail: grobbins@spencerfane.com